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10/588,902	06/18/2007	Roger John Gillespie	010180.00053	9780
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1100 13th STR		BALASUBRAMANIAN, VENKATARAMAN		
SUITE 1200 WASHINGTON, DC 20005-4051			ART UNIT	PAPER NUMBER
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# Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	A P C N.	Asses Paras (Ia)			
	Application No.	Applicant(s)			
Office Action Summary	10/588,902	GILLESPIE ET AL.			
Office Action Summary	Examiner	Art Unit			
	/Venkataraman Balasubramanian/	1624			
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply					
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).					
Status					
1) Responsive to communication(s) filed on 09 Au	<u>ıgust 2006</u> .				
2a) This action is <b>FINAL</b> . 2b) ☑ This	· · · · · · · · · · · · · · · · · · ·				
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims					
<ul> <li>4)  Claim(s) 1-21,23-40 and 42 is/are pending in the application.</li> <li>4a) Of the above claim(s) is/are withdrawn from consideration.</li> <li>5)  Claim(s) is/are allowed.</li> <li>6)  Claim(s) 1-21,23-40 and 42 is/are rejected.</li> <li>7)  Claim(s) is/are objected to.</li> <li>8)  Claim(s) are subject to restriction and/or election requirement.</li> </ul>					
Application Papers					
9)☐ The specification is objected to by the Examine					
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.					
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).					
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.					
Priority under 35 U.S.C. § 119					
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>					
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  3) Information Disclosure Statement(s) (PTO/SB/08)	4)	nte			
Paper No(s)/Mail Date <u>08/09/2006</u> .	6) 🔲 Other:				

### **DETAILED ACTION**

The preliminary amendment, which included cancellation of claims 22, 41 and amendment to claims 1-21, 23, 25-40 and 42, filed on 08/09/2006, is made of record. Claims 1-21, 23-40 and 42 are now pending.

#### Information Disclosure Statement

References cited in the Information Disclosure Statement, filed on 08/09/2006, are made of record.

## Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21, 23-40 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Recitation of "prodrug ester thereof" in claim 1 and claim 23 renders these claims and their dependent claims 2-12 and 14-27 indefinite as prodrug ester in general and as noted in specification, are compounds, which undergo in vivo hydrolysis. In that sense recitation of "prodrug" is not ambiguous and is acceptable. However, claim 1 and claim 23 do not recite any substituents, other than OH, which can be converted to such ester groups. In addition, if optionally substituted were to include various substituents groups on pyrimidine ring such as groups, esters, carbamates, alkoxycarbonyl etc. which are also in vivo hydrolysable and therefore it is not clear what is the difference between these variable groups and the "prodrug" groups. The use of ester group(s), carbamates

etc as substituents as well as in In vivo hydrolysable ester as Markush choice, results in ambiguity. There is clear-cut ambiguity as to what is to be considered as prodrug and what is not. Applicants should note that if the variable groups are prodrug, which are in general inactive but becomes active upon in vivo transformation, then the compound bearing the variable group would be deemed as inactive which is not what the claim recites.

Furthermore, the issue on second paragraph is whether the structures of the claimed compounds are clearly defined. Applicants' prodrugs are molecules whose structure lie outside the subject matter of formula (I), but upon metabolism in the body are converted to active compounds falling within the structural scope of formula (I). The claim describes the function intended but provides no specific structural guidance to what constitutes a "prodrug". Structural formulas, names, or both can accurately describe organic compounds, which are the subject matter of claims 1 and 13. Attempting to define means by function is not proper when the means can be clearly expressed in terms that are more precise.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-21, 23-40 and 42 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for making pharmaceutically acceptable salt of the claimed compounds, does not reasonably provide enablement for making prodrug of the claimed compounds. The claim(s) contains subject matter that was not

described in the specification in such a way as to enable one skilled in the art of medicinal chemistry - to use the invention. "The factors to be considered in making an enablement rejection have been summarized as the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples, the nature of the invention, the state of the prior art, the relative skill of those in that art, the predictability or unpredictability of the art and the breadth of the claims", In re Rainer, 146 USPQ 218 (1965); In re Colianni, 195 USPQ 150, Ex parte Formal, 230 USPQ 546. a) Finding a prodrug, in this case in vivo hydrolysable ester is an empirical exercise. Predicting if a certain ester of a claimed alcohol, for example, is in fact a prodrug, and produces the active compound metabolically, in man, at a therapeutic concentration and at a useful rate is filled with experimental uncertainty. Although attempts have been made to predict drug metabolism 'de novo, this is still an experimental science. For a compound to be a prodrug, it must meet three tests. It must itself be biologically inactive. It must be metabolized to a second substance in a human at a rate and to an extent to produce that second substance at a physiologically meaningful concentration. Thirdly, that second substance must be biologically active. Thus, determining whether a particular compound meets these three criteria in a clinical trial setting requires a large quantity of experimentation. In addition, as it is not clear what the structural make-up of these metabolites is. The genus of compounds embraced in claim 1 and 23 would exceed, as is, thousands of compounds. In addition, their prodrugs with undefined structural make-up would quite likely to encompass the still larger chemical space. To find a prodrug in this space without any guidance is

formidable task and hence claims 1 and 23 need to state the structural make-up of these metabolites to search and examine these metabolites. Specification has no showing or teaching of nay such metabolites. Also, note MPEP 2164.08(b) which states that claims that read on "... significant numbers of inoperative embodiments would render claims nonenabled when the specification does not clearly identify the operative embodiments and undue experimentation is involved in determining those that are operative.". Clearly that is the case here.

- b) The direction concerning what is the structural make-up of the claimed prodrug is not found in the specification.
- c) There is no working example of a prodrug of a compound the formula (I). d) The nature of the invention is clinical use of compounds and the pharmacokinetic behavior of substances in the human body. e) The state of the prodrug art is summarized by Wolff (Medicinal Chemistry). The table on the left side of page 976 outlines the research program to be undertaken to find a prodrug. The second paragraph in section 10 and the paragraph spanning pages 976-977 indicate the low expectation of success. In that paragraph the difficulties of extrapolating between species are further developed. Since, the prodrug concept is a pharmacokinetic issue, the lack of any standard pharmacokinetic protocol discussed in the last sentence of this paragraph is particularly relevant. Banker (Modem Pharmaceutics) in the first sentence, third paragraph on page 596 states that "extensive development must be undertaken" to find a prodrug. I) Wolff (Medicinal Chemistry) in the last paragraph on page 975 describes the artisans making Applicants' prodrugs as a collaborative team of synthetic pharmaceutical chemists and

metabolism experts. All would have a Ph. D. degree and several years of industrial experience. g) It is well established that "the scope of enablement varies inversely degree of unpredictability of the factors involved", 'and physiological activity is generally considered to be an unpredictable factor. See In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). h) The breadth of the claims includes all of the hundreds of thousands of compounds of formula of claim I and claim 13 as well as the presently unknown list potential prodrug derivatives embraced by the word "prodrug". Thus, undue experimentation will be required to determine if any particular derivative is, in fact, a prodrug.

MPEP 2164.01(a) states, "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)." That conclusion is clearly justified here. Thus, undue experimentation will be required to make Applicants' invention.

Claims 1-21, 27-40 and 42 are rejected under U.S.C. 112, first paragraph, because the specification while being enabling for treating hypertension, asthma, Parkinson's disease and myocardial ischemia does not reasonably provide enablement for treating and preventing any or all disorders including hypertension, asthma, Parkinson's disease and myocardial ischemia in a subject in which blocking or purine receptors is beneficial as generically embraced in claims 1-21, 27-40 and 42. The

specification does not enable any physician skilled in the art of medicine, to use the invention commensurate in scope with the claim.

Many factors require consideration when determining whether sufficient evidence supports a conclusion that a disclosure satisfies the enablement requirement and whether any necessary experimentation is "undue." See MPEP 2164.01(a). The factors to be considered in making an enablement rejection have been summarized below.

In evaluating the enablement question, several factors are to be considered. Note In re Wands, 8 USPQ2d 1400 and Ex parte Forman, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

#### 1) The nature of the invention:

Therapeutic use of the compounds in treating pathological disorders/diseases that require purine receptor blocking activity. The instant method of use claims 1-21 are drawn to treating or preventing a disorder in which blocking or purine receptors is beneficial in a subject by administering a effective amount of compound of formula I while claims 27-40 and 42 recite specific receptor and a list of diseases/disorders for such treating and preventing for which there is no enabling disclosure.

Instant claims as recited, are reach through claims. A reach through claim is a claim drawn to a mechanistic, receptor binding or enzymatic functionality in general format

and thereby reach through a scope of invention for which they lack adequate written description and enabling disclosure in the specification.

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In the instant case, based on the blocking of purine receptor in general and adenosine receptor in general by the instant compounds, the method of use claims reach through treating any or all disorders and diseases mediated purine receptor and more specifically adenosine receptor indicated above and thereby they lack adequate written description and enabling disclosure in the specification.

More specifically, in the instant case, based on the mode of action of instant compounds as inhibitor of adenosine receptor or purine receptor, based on limited in vitro assay with limited enzyme, it is claimed that treating any or all disorders and diseases including movement disorders; anxiety disorders, affective disorders; central and peripheral nervous system degenerative disorders; schizophrenia; cognitive and memory impairment disorders; attention disorders; central nervous system injury; cerebral ischaemia; myocardial ischaemia; muscle ischaemia; sleep disorders; eye disorders; cardiovascular disorders; and diabetes, Parkinson's disease, progressive supernuclear palsy, Huntingtons disease, muhiple system atrophy, corticobasal degeneration, Wilsons disease, Hallerrorden-Spatz disease, progressive pallidal atrophy, Doparesponsive dystonia-Parkinsonism and spasticity, the anxiety disorders selected from panic disorder, agorophobia, obsessive compulsive disorder, social phobia, post traumatic stress disorder, generalized anxiety disorder and specific phobia, affective disorders selected from bipolar disorder, seasonal affective disorder, depression, manic depression, atypical depression and mono depressive disease, central and peripheral

nervous system degenerative disorders selected from corticobasal degeneration, demyelinating disease, Freidrich's ataxia, motoneurone disease, multiple system myelopathy. radiculopathy, peripheral neuropathy, systemic atrophy. erythamatosis, granulomatous disease, olivo-ponto-cerebellar atrophy, progressive pallidal atrophy, progressive supranuclear palsy and spasticity, cognitive and/or memory, impairment disorders selected from dementia, Alzheimers Disease, Frontotemporal dementia, multi-infarct dementia, AIDS dementia, dementia associated with Huntingtons Disease, Lewy body dementia, senile dementia, age-related memory impairment, cognitive impairment associated with dementia, Korsakoff syndrome, dementia pugilans, attention disorders selected from attention-deficit hyperactivity disorder (ADHD), attention deficit disorder, minimal brain dysfunction, brain-injured child syndrome, hyperkinetic reaction childhood and hyperactive child syndrome, central nervous system injuries selected from traumatic brain injury, surgical trauma, raised intracranial pressure, cerebral oedema, hydrocephalus and spinal cord injury, cerebral ischaemia such as transient ischaemic attack, stroke, subarachnoid haemorrhage, cerebral vasospasm, perinatal asphyxia, drowning, cardiac arrest or subdural haematoma, sleep disorders selected from hypersomnia, narcolepsy and restless legs syndrome, eye disorders selected from retinal ischaemia-reperfusion injury and diabetic neuropathy, and neuroprotection for all of which there is no enabling disclosure.

In addition, the scope of the claim is not adequately enabled solely based on the activity of the compounds provided in the specification at pages 1-3 and 27-29. The instant compounds are disclosed to have purine and adenosine receptor inhibitory

activity and it is recited that the instant compounds are therefore useful in treating any or all diseases stated above for which applicants provide no competent evidence. It appears that the applicants are asserting that the embraced compounds because of their mode action adenosine receptor inhibitor that would be useful for all sorts of generic diseases and disorders, including those listed above. However, the applicants have not provided any competent evidence that the instantly disclosed tests are highly predictive for all the uses disclosed and embraced by the claim language for the intended host.

The scope of the claims involves all of the millions of compounds of claim 1 as well as the thousands and thousands of diseases embraced in claims 1-21, 27-40 and 42.

Similarly, enablement for the scope of "any disorder" generally is not present. For a compound or genus to be effective against any disorder based on mode of action generally is contrary to medical science. The claims cover methods for treatment of all of the diseases mentioned above, including other diseases that may be discovered in the future that may be comprehended under the recited diseases.

The scope of the claims includes not only treatment but also "prevention of a disease" which is not adequately enabled solely based on the activity of the compounds as purinergic receptor anatagonist provided in the specification at pages 1, 3, 68 and 69. "To prevent" actually means to anticipate or counter in advance, to keep from happening etc. (as per Websters II Dictionary) and there is no disclosure as to how one skilled in the art can reasonably establish the basis and the type of subject to which the instant compounds can be administered in order to have the "prevention" effect. There

is no evidence of record, which would enable the skilled artisan in the identification of the people who have the potential of becoming afflicted with the disease(s) or disorder(s) claimed herein. However, the applicants have not provided any competent evidence that the instantly disclosed tests are highly predictive for all the uses disclosed and embraced by the claim language for the intended mammal. Moreover many if not most of diseases cited above are very difficult to treat and hardly possible to prevent as claimed herein.

No compound has ever been found to treat any or all diseases and disorders of all types generally. Since this assertion is contrary to what is known in medicine, proof must be provided that this revolutionary assertion has merits. The existence of such a "compound" is contrary to our present understanding of modern medicine. The specification fails to identify the results of treatment with the methods of this invention and how such results would be recognized, particularly with regard to conditions and diseases that are currently considered incurable, untreatable or fatal.

Note substantiation of utility and its scope is required when utility is "speculative", "sufficiently unusual" or not provided. See Ex parte Jovanovics, 211 USPQ 907, 909; In re Langer 183 USPQ 288. Also note Hoffman v. Klaus 9 USPQ 2d 1657 and Ex parte Powers 220 USPQ 925 regarding type of testing needed to support in vivo uses.

Next, applicant's attention is drawn to the Revised Interim Utility and Written Description Guidelines, at 64 FR 71427 and 71440 (December 21, 1999) wherein it is emphasized that 'a claimed invention must have a specific and substantial utility'. The disclosure in the instant case is not sufficient to enable the instantly claimed method

treating solely based on the inhibitory activity disclosed for the compounds. The state of the art is indicative of the requirement for undue experimentation. See Sitkovsky, Baraldi and Gao provided.

Also, note MPEP 2164.08(b) which states that claims that read on "... significant numbers of inoperative embodiments would render claims nonenabled when the specification does not clearly identify the operative embodiments and undue experimentation is involved in determining those that are operative.". Clearly that is the case here.

- 2) The state of the prior art: Recent publications expressed that the adenosine receptor inhibition effects are unpredictable and are still exploratory. See Sitkovsky et al., British Journal of Pharmacology, 153, 5457-5464, 2008, especially the concluding paragraph. See also Baraldi et al., European Journal of Medicinal Chemistry 38: 367-382, 2003. See also Gao et al., Expert. Opin. Emerging Drugs 12(3): 479-492, 2008, which indicates the state of the art and points out need for further experimentation to establish the usefulness of antagonists of adenosine receptors.
- 3) The predictability or lack thereof in the art: Applicants have not provided any competent evidence or disclosed tests that are highly predictive for the pharmaceutical use for treating any or all disorders stated above with the instant compounds. Pharmacological activity in general is a very unpredictable area. Note that in cases involving physiological activity such as the instant case, "the scope of enablement obviously varies inversely with the degree of unpredictability of the factors involved". See In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970).

4) The amount of direction or guidance present and 5) the presence or absence of working examples: Specification has no working examples to show treating any or all condition and diseases stated above and the state of the art is that the effects of adenosine receptor inhibitors are unpredictable.

- 6) The breadth of the claims: The instant claims embrace any or all disorders, and including those yet to be related to purine or adenosine receptor activity with a large genus of compounds.
- 7) The quantity of experimentation needed would be an undue burden to one skilled in the pharmaceutical arts since there is inadequate guidance given to the skilled artisan, regarding the pharmaceutical use, for the reasons stated above.

Thus, factors such as "sufficient working examples", "the level of skill in the art" and "predictability", etc. have been demonstrated to be sufficiently lacking in the instant case for the instant method claims. In view of the breadth of the claims, the chemical nature of the invention, the unpredictability of enzyme-inhibitor interactions in general, and the lack of working examples regarding the activity of the claimed compounds towards treating the variety of diseases of the instant claims, one having ordinary skill in the art would have to undergo an undue amount of experimentation to use the instantly claimed invention commensurate in scope with the claims.

Genentech Inc. v. Novo Nordisk A/S (CA FC) 42 USPQ2d 1001, states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the Wands factors and In re Fisher (CCPA 1970) discussed above, to practice the claimed invention herein, a person of skill in the art would have to engage in undue experimentation to test which diseases can be treated by the compounds encompassed in the instant claims, with no assurance of success.

MPEP §2164.01(a) states, "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was 'filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)." That conclusion is clearly justified here and undue experimentation will be required to practice Applicants' invention.

## **Double Patenting**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 23, 24 and 26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 19, 23 and 42 of copending Application No. 10/588,757 Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter namely compound and composition embraced in the claims 23, 24 and 26 the invention is also claimed in the claims 19, 23 and 42 of the copending application 10/588,757. Note claims 19, 23, 42 of copending application permits when R<sub>1</sub>= NH<sub>2</sub>. While said compounds do not anticipate the scope of instant claims where R<sub>1</sub> is NHCH<sub>3</sub>, they are very closely related having NH<sub>2</sub> in the claims of copending application versus NHCH<sub>3</sub> in the instant claims. However, compounds that differ only in having H vs Me on nitrogen are not deemed patentably distinct absent evidence of superior or unexpected properties. See for compounds that differ only as H vs Me on nitrogen, Ex parte Weston 121 USPQ 428; In re Doebel 174 USPQ 156. Thus, one skilled in the art at the time of the invention would have been motivated to make compounds that have methyl on the nitrogen and expect the these compounds to possess the utility in the instant case in view of the close structural similarity outlined above.

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Conclusion

Any inquiry concerning this communication from the examiner should be

addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (571)

272-0662. The examiner can normally be reached on Monday through Thursday from

8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is

James O. Wilson, whose telephone number is 571-272-0661. The fax phone number for

the organization where this application or proceeding is assigned (571) 273-8300. Any

inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAG. Status

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more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-2 17-9197 (toll-free).

/Venkataraman Balasubramanian/

Primary Examiner, Art Unit 1624